

## **SECTION 2.3.5**

### **NOYO RIVER WATERSHED**

Based on the recognition that the anadromous fishery is in decline, activities to assess the watershed and improve conditions for anadromous salmonids are underway. A Clean Water Act Section 303(d) TMDL waste reduction strategy for sediment has been completed and approved by EPA in December 1999. The following provides an overview of activities and outlines our basic framework and strategy at this time.

#### **WATERSHED DESCRIPTION**

The Noyo River watershed is a 72,323-acre coastal tributary immediately west of the City of Willits that flows to the Pacific Ocean at the City of Fort Bragg. Redwood and Douglas fir forest on rugged, mountainous terrain dominate the watershed. The climate has moderate temperatures (annual average 53 degrees F) and an average annual rainfall of 40 - 65 inches. The primary land use within the watershed is timber production and harvesting by three large timberland owners: Mendocino Redwood Company, Hawthorne Timber Company and the Jackson State Forest (run by the California Department of Forestry and Fire Protection which owns about 19 percent of the watershed). Together these three landowners own approximately 70 percent of the watershed. The California Western Railroad operates the Skunk Train that traverses the Noyo River watershed along the mainstem channel with 40 miles of track and 31 bridges and trestles crossing the river. Other minor land uses in the basin include ranching and recreation. The mouth of the Noyo River is dominated by a marina and associated fish processing facilities in support of the local fishing industry. This is the only major fishing fleet between Bodega Bay and Eureka. Hillside vineyard development is a concern for production of sediment as land is converted to new vineyards in the future.

Old growth logging started in the mid 1800's and continued into the early part of the 20<sup>th</sup> century. Second growth logging began in the 1960's primarily in the lower main drainage area, and continues today. Removal of residual old-growth stands began in the 1960's and continued into the mid 1980's. In addition, the average road densities for the watershed overall is 6.71 miles per square mile. But road densities in most individual tributaries are higher, and the majority of these roads are seasonal, unsurfaced, and have the potential for greater surface erosion. Many logging and rural residential roads are involved in mass wasting and sediment discharge incidents.

The Noyo River supports an anadromous fishery including steelhead trout and coho salmon, which was listed on July 19, 1995 as threatened under the federal Endangered Species Act. The Noyo River, pursuant to Section 303(d) of the Clean Water Act, is listed as impaired by excessive sediment loading associated with historic logging, overgrazing and road building.

The City of Fort Bragg uses surface water from the Noyo River as a primary source of drinking water. The City of Fort Bragg suffered from lack of sufficient quantity of water during the drought in the 1980's and is subject to high raw water turbidities during the winter period. A new water treatment plant was constructed in 1987. The water intake system was designed to frequently backflush compressed air through the intake screens to remove silt that was plugging the screens (State Department of Health Services, personal communication, July 1995). The City has established a new deep well about a mile inland on the Noyo River where timing of pumping is important to avoid seawater intrusion. Another diversion from the river has been established to send water to Pudding Creek to service the Georgia Pacific Corporation mill. Many summer camps use the river for water supply.

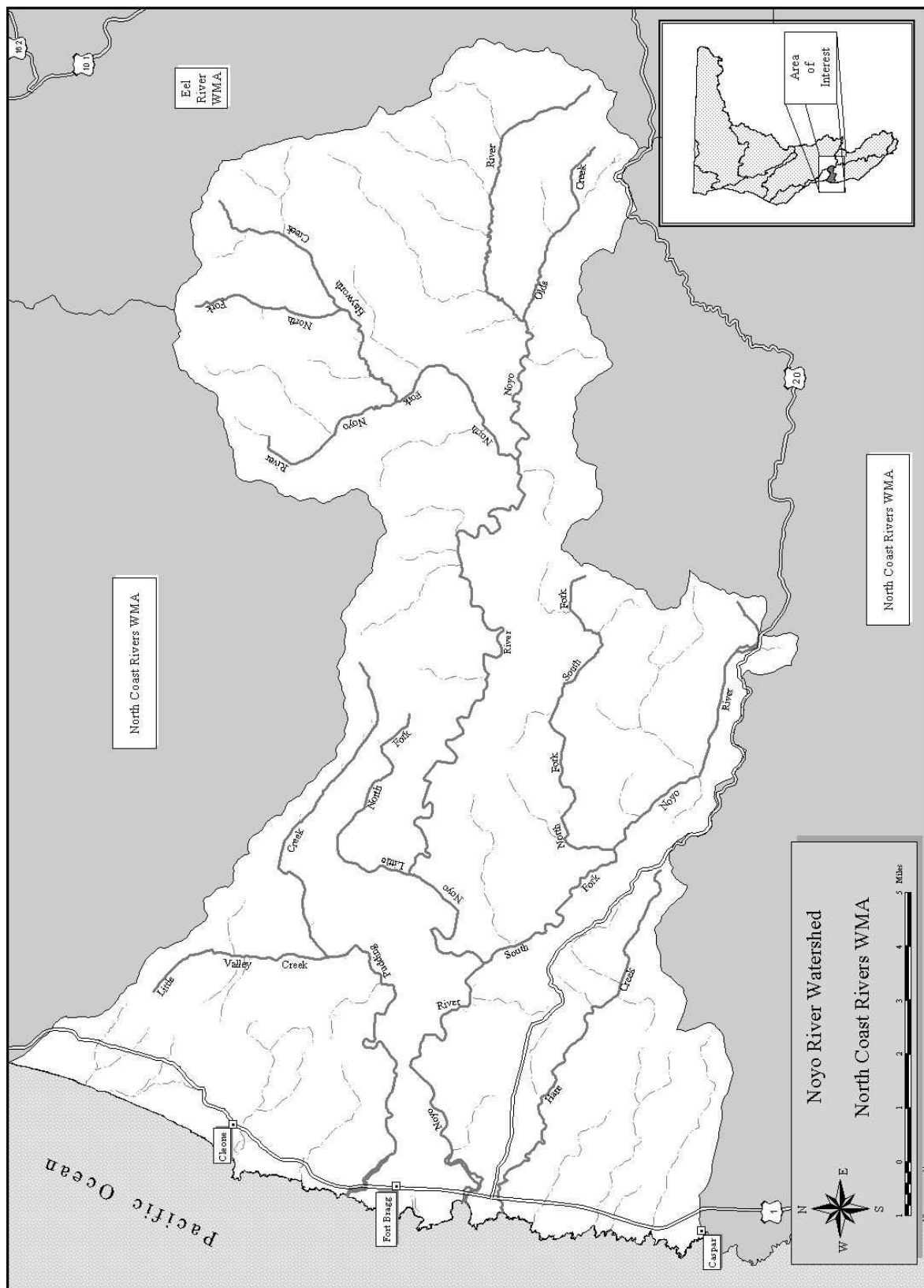


Figure 2.3.5.1. Noyo River Watershed

## **IMPLEMENTATION STRATEGY**

Strategy development will occur in the form of the TMDL waste load reduction strategy for sedimentation. The TMDL is tied to resource impacts and reduction of sources to reduce impacts and bring the watershed into a desired future condition that is consistent with the enhancement and maintenance of salmonid species. A broad interagency effort was used to gather and assess existing information on the watershed. Likewise, the development of the strategy incorporated significant interagency and public coordination.

Other concerns in the watershed will continue to be addressed through existing programs. However, vineyards are rapidly expanding in the north coast region. Much of this expansion is occurring on hillsides where there is increased erosion potential and delivery of sediment to nearby streams. Outreach is being conducted by Regional Board staff to educate vineyard landowners of best management practices for prevention of increased sedimentation of waters of the State and protection of the beneficial uses of water. Current funding constraints will limit Regional Board staff outreach activities and enforcement activities to address this issue.

Given current funding constraints, any new and/or redirected resources should be focused on staffing for field nonpoint source compliance and enforcement inspections and hillside vineyard erosion issues as they develop.

### **Institutional framework**

The *Water Quality Control Plan for the North Coast Region* (Basin Plan) contains specific water quality objectives and implementation programs to protect and enhance identified beneficial uses of water. The over-arching regulatory provisions of the Basin Plan are the Action Plan for Logging, Construction and Associated Activities and the Nonpoint Source Action Plan. The SWRCB and CDF/BOF entered into a Management Agency Agreement, which delegates primary water quality authority to the CDF/BOF. Regulatory activities associated with timber harvest are conducted in accordance with that agreement.

## **ASSESSMENT AND PROBLEM IDENTIFICATION**

The Noyo River watershed is primarily private land in timber production. Little development has occurred in the watershed in the last two decades. As mentioned above, the primary water quality concerns are related to drinking water supply and the anadromous fishery. Some of the major issues are noted below.

The City of Fort Bragg's Noyo River water supply is directly influenced by surface water and suffers from frequent siltation of the intakes. Turbidity data collected by the City of Fort Bragg between 1993 and 1997 indicate that turbidity values have increased steeply through this period. Turbidity levels have periodically obscured visibility and have remained elevated even after the cessation of rain. This can adversely affect fish and drinking water quality.

Existing salmonid habitat is limited by various erosion-influenced factors, including infrequent and shallow pools, few backwater pools and other overwintering habitat, embedded cobble, and elevated fines in potential spawning gravels. Limited availability of large woody debris in the channels of Noyo River watershed contributes to the problems associated with sedimentation. Pool volume in the Noyo River watershed has decreased due to the accumulation of fine sediment delivered by surface erosion throughout the basin. The availability of large woody debris and deep pools appear to be two of the main factors limiting the success of salmonids in the Noyo River watershed. Coho populations today are probably less than 6 percent of what they were in the 1940's and there has been at least a 70 percent decline since the 1960's. The anadromous fishery has experienced shifts in species

composition. Calif. Dept. of Forestry and Fire Protection employees, Valentine and Jameson repeated aspects of earlier fisheries work by Calif. Dept. of Fish and Game biologist, J. W. Burns, on the Little North Fork Noyo River in 1992 near the same location as Burns' initial study reaches. They found the total salmonid biomass was similar to that found by Burns but the species composition has inverted from primarily coho salmon to primarily steelhead trout. They suggest that the decline in the stream channel's average pool depth, in response to past logging practices, seems the most likely instream parameter causing the inversion in salmonid species composition in the Little North Fork Noyo River.

The Noyo River, pursuant to Section 303(d) of the Clean Water Act, is listed as impaired by excessive sediment loading associated with historic logging, overgrazing and road building. The harbor must be dredged on a frequent basis due to the large amounts of sediment deposited from upstream. Dredging volumes have increased over the years. For example, the average dredging volume in 1994 was 236 percent of the average volume in 1957 and 127 percent of the average volume for the first ten years of dredging (starting in 1933). A new marina, Dolphin Marina, needs to dredge to maintain adequate depth. The California Department of Transportation is replacing the Highway 1 bridge over the Noyo River and dredge spoils are being placed at the north bank of the bridge footing.

Contamination from diesel, penta- and tetrachlorophenol, and dioxins in stream sediments has been documented in the Parlin Fork and the Noyo River as a result of past activities at a wood treatment plant at the CDF camp. There are concerns about metals and creosote from the Skunk Train. Georgia Pacific has a bark dump on the north side of the river where tannins may be leaching into a wetland area at Newman Gulch. Herbicide use continues on forest lands. The Office of Emergency Services reports frequent oil spills in the harbor area, and fish waste dumping is also a concern. Urchin wastes are discharged one mile off shore and assessment of this practice is incomplete. Waste discharge requirements exist for the Conservation Camps at Chamberlin Creek and Parlin Fork.

### **WATER QUALITY GOALS AND ACTIONS**

The following listing represents a first-cut delineation of goals and actions to achieve the goals that will be refined through the TMDL development and a Watershed Team.

#### **GOAL 1: Protect surface and ground water MUN, DOM, REC-1, and REC-2 uses**

##### **Point Source Issues**

###### **Current Activities**

- Continue to perform waste discharger compliance inspections
- Address highest priority groundwater cleanups/remediations, e.g., Parlin Fork CDF camp
- Address highest priority underground tank cases
- Promote continuing development and application of management practices for storage, treatment and disposal of hazardous substances

##### **Nonpoint Source Issues**

###### **Current Activities**

- Maintain timber-related activities and focus on erosion controls

#### **Additional Needs**

- Identify erosion and sediment sources and potential sources, including sources related to new development of hillside vineyards
- Conduct outreach on best management practices for hillside vineyards

#### **GOAL 2: Protect and enhance beneficial uses associated with anadromous fishes COLD, MIGR, SPWN, EST, COMM**

#### **Nonpoint Source Issues**

##### **Current Activities**

- Completed Section 303(d) waste reduction strategy (TMDL) to focus on assessment and watershed planning and a strategy for addressing instream and up-slope problems with respect to land use activities and to promote habitat and riparian zone restoration activities

##### **Additional Needs**

- Identify erosion and sediment sources and potential sources, including sources related to new development of hillside vineyards
- Conduct outreach on best management practices for hillside vineyards

#### **SUMMARY OF WATERSHED ACTIVITIES**

The overall emphasis in the WMA was the completion of the TMDL waste reduction strategy for sediment. Increased assessment activities and continued high priority forestry related activities, including any needed outreach to new vineyards, are commensurate with that charge.

##### **Assessment and Monitoring:**

Assessment of existing information was used in the development of the TMDL strategy, drawing from existing information contained in plans being developed by the CDF and private timber companies as well as any citizen information that is made available. As mentioned above, data along with some analysis is available in the KRIS-Noyo computerized database package.

Monitoring in the long term will be associated with determining the effectiveness of management practices to reduce erosion and sedimentation and determining trends towards the desired future condition. Additional biological assessment in the surface waters near the Parlin Fork Conservation Camp may be required in association with a contamination issue. The SWAMP has identified a rotating station low in the watershed for basic water quality parameters. Monitoring needs also include monitoring toxins associated with marina use, boat repair and herbicide use. Monitoring for bacteria and sediment also needs to be increased.

Additional detail of monitoring needs is contained in Appendix 2.3.5-B.

##### **Education and Outreach:**

The TMDL process will enhance public and agency participation. Our intent is to improve the recognition of land use impacts on the aquatic environment from nonpoint sources and to foster adaptive management for overall watershed health.

##### **Coordination:**

We currently coordinate with local and State agencies on an as-needed basis. Improved coordination is sought as part of the TMDL implementation process and the North Coast Watershed Assessment.

#### Core Regulatory:

The current level of point source regulation (inspection, monitoring, and enforcement) on traditional dischargers with some increase in storm water issues is anticipated. Harbor issues associated with fish processing and individual waste disposal systems (primarily on the south shore of the harbor), as well as construction related problems, are addressed through the core regulatory program and the local oversight of individual systems.

#### Ground water:

Ground water issues center around petroleum contamination and mill sites and will continue to receive the current level of activity. Groundwater and surface water contamination is suspected at former and existing mill sites that historically used wood treatment chemicals. Discharges of pentachlorophenol, polychlorodibenzodioxins, and polychlorodibenzofurans likely occurred with poor containment typically used in historical wood treatment applications. These discharges persist in the environment and accumulate in surface water sediments and the food chain. Additional investigation, sampling and monitoring, and enforcement actions are warranted, but insufficient resources exist to address this historical toxic chemical problem.

#### Nonpoint Source:

Continued involvement in forestry, grazing and county road issues is necessary to ensure protection of aquatic resources. The recent listing of coho salmon as threatened under the federal Endangered Species Act has put the spotlight on all land use activities that potentially may increase sedimentation or otherwise affect habitat. The TMDL implementation process will increase work with local agencies and groups regarding land use effects on water quality, following the State Nonpoint Source Management Plan strategy of first emphasizing voluntary implementation of controls to reduce nonpoint source pollution. An outreach program will enhance the effectiveness of the program. Where land management activities are found to be out of compliance with Basin Plan standards, Regional Water Board staff investigation and enforcement actions may be determined necessary.

Vineyards are rapidly expanding in the north coast region. Much of this expansion is occurring on hillsides where there is increased erosion potential and delivery of sediment to nearby streams. The Regional Board staff will need to educate vineyard landowners of best management practices for prevention of increased sedimentation of waters of the State and protection of the beneficial uses of water through an outreach program as conversion of land to vineyards occurs.

#### Timber Harvest:

We have an extensive Timber Harvest program where staff review and inspect timber harvest plans for implementation of the Forest Practice Rules and best management practices to ensure protection of water quality and beneficial uses. We are expanding our program activities on private land in concert with California Department of Forestry and Fire Protection.

#### Local Contracts:

We will continue active involvement in the Clean Water Act sections 319(h) and 205(j) grant programs and the Water Bond (Proposition 13) grant program, as well as promoting other programs like the California Department of Fish and Game programs.

#### Water Quality Planning:

The Basin Plan review process feeds into the activities to the extent issues were identified in the Triennial Review and applicable to the Noyo River watershed. The top priority issues are:

- Consider revisions to the water quality objectives for dissolved oxygen and temperature

- Review the Nonpoint Source Control Measures

Additionally, the TMDL strategy will be incorporated into the Basin Plan at some future date.

#### **Evaluation and feedback**

We will evaluate progress on a yearly basis, the TMDL providing the focus.

#### **BUDGET**

We will attempt to fund the highest priority actions as identified in this WMA to the extent funding constraints allow that, and will pursue additional funding to conduct outreach and enforcement activities on new developments of hillside vineyards is needed to pursue the actions we are currently unable to address.

Appendix 2.3.5-B contains monitoring and assessment needs, and Appendix D contains details on nonpoint source program activities and needs.

## **Appendix 2.3.5-A**

### **Partial listing of agencies and groups in the Noyo River watershed with water quality jurisdiction and interests.**

#### United States

- Environmental Protection Agency
- Fish and Wildlife Service
- National Marine Fisheries Service
- Natural Resources Conservation Service

#### California State

- California Environmental Protection Agency
- Department of Forestry and Fire Protection
- Board of Forestry
- Department of Fish and Game
- Department of Health Services
- Department of Toxic Substance Control
- Department of Water Resources
- California Coastal Conservancy

#### Mendocino County

- Water Agency
- Planning Department
- Department of Environmental Health

#### Local Agencies

- Mendocino County Resource Conservation District
- city planning departments
- city public works departments

#### Public Interest Groups and Industries

- Coast Action Group
- Pacific Coast Federation of Fishermen's Associations
- Georgia-Pacific Corporation
- Louisiana-Pacific Corporation
- Friends of Fort Bragg
- Campbell Group (Hawthorne Timber Company)
- Mendocino Redwood Company
- Noyo Watershed Alliance



## Appendix 2.3.5-B

### Monitoring priorities and needs detail for the Noyo WMA

Additional assessment by Regional Water Board staff is needed to test hypotheses about support of beneficial uses MUN, REC1, COLD, RARE, or provide assessment information essential for program implementation. They are currently not funded.

The estimates are Regional Water Board needs on a per year basis with fiscal years identified.

1. **TMDL Monitoring - \$65,000 - (0.5 PY + \$10,000) – FY 03-04, 06-07, 11-12, ongoing at 5-year increments**  
Instream and hillslope conditions should be monitored to gauge success and progress of implementation and to provide feedback into the implementation process.
2. **Parlin Fork Biological Assessments - \$32,000 (0.2 PY + \$10,000) – FY 04-05**  
Documentation of conditions and monitoring of the aquatic biota should be conducted to assess the success of wood treatment chemical cleanup actions at the Parlin Fork Conservation Camp.

